

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is an image processing system which reads the image of manuscripts expressed to space etc., such as a copying machine, a printer, and a scanner, and performs various kinds of processings, and relates to the fixed structure for fixing the wire for driving the carrier which scans a manuscript to the driving pulley around which this wire was made to wind.

[0002]

[Description of the Prior Art] The image which was expressed by the manuscript and which should be processed is caught, it leads to the image-processing sections, such as CCD, the reflecting mirror which forms the optical path from a manuscript to CCD therefore is prepared, and the carrier of an image processor has caught the image by making this carrier scan along with a manuscript. This scan is rolled round by the driving pulley rotated with the power of a motor, the wire sent out is made to coordinate a carrier, and it has been made to be performed by transit of this wire. The other end is hung on the wall of housing through stress springs, such as an extension spring, the wall of housing which held the carrier is made to coordinate the end of this wire, it is hung, and the carrier has been [predetermined stress is given to a wire and] made to perform the predetermined drive with this stress spring. In addition, it is made to have wound around the pulley which hung on the carrier or the carrier was made to support free [rotation], and it is fixed to said driving pulley, and count winding of the pars intermedia of a wire is carried out suitably.

[0003] There is an approach as shown in drawing 5 in the conventional structure which fixes a wire to said driving pulley. The almost circular stop crevice 52 is formed in the peripheral surface of a driving pulley 51, this stop crevice 52 is made to follow, and the wire retention groove 53 of die length is following the hoop direction suitably at the both sides of this stop crevice 52. On the other hand, in the predetermined location of the wire 54 fixed to this driving pulley 51, the stop member 55 which carried out the globular form has fixed. And will make it inserted in this stop member 55 in said stop crevice 52, and it will be made to be held to said wire retention groove 53 in the wire 54, and a wire 54 will be fixed to a driving pulley 51 after these have inserted.

[0004] In addition, although count winding of the wire 54 is carried out suitably at said driving pulley 51, when this wire 54 cannot fix to a driving pulley 51, while it becomes impossible to position the driving pulley 51 to a wire 54 easily, there is a possibility that a wire 54 may loosen and un-arranging may arise for a drive at the time of a winding activity.

[0005]

[Problem(s) to be Solved by the Invention] However, with the conventional fixed structure mentioned above, since it is the structure of making the stop member 55 inserting in the stop crevice 52, there is a possibility of it being unable to insert depending on the processing dimension of these stop crevice 52 and the stop member 55, or it being inserted loosely and dropping out easily. Although what is necessary is just to make such process tolerance high, processing cost will go up and the cost of equipment itself will increase.

[0006] Then, in case the purpose of this invention fixes a wire to a driving pulley, the stop member fixed to this wire is to offer the fixed structure of the wire for a carrier drive of the image processing system which was made to be stopped in the predetermined location of a drive pulley certainly.

[0007]

[Means for Solving the Problem] As technical means for attaining the above-mentioned purpose, the fixed structure of the wire for a carrier drive of the image processing system concerning this invention In the image processing system which performs the drive of the carrier for scanning the manuscript laid in the manuscript base by migration of the wire which this carrier was made to coordinate To the driving pulley of said wire which fixes the stop member of a configuration suitably in a location, and fixes said wire Form the stop crevice which engages with said stop member, the part in contact with the stop member of said stop crevice is made to be equipped with elasticity, and it is characterized by pinching a stop member with this elasticity in the condition of having made the stop member engaging with a stop crevice.

[0008] When inserting said stop member in said stop crevice, since it bends suitably with the elasticity of this stop crevice, a stop member can be inserted easily. And since a stop member is pinched with this elasticity, a stop member can be held certainly and a wire can be fixed to a driving pulley.

[0009] Moreover, fixed structure concerning invention of claim 2 is characterized by making the elasticity of said stop crevice have with the configuration of the periphery of this stop crevice.

[0010] If a stop crevice is also formed in coincidence and forms the configuration of a ***** part in the flat spring's configuration for this stop crevice in case a driving pulley is fabricated, said stop member will be pinched by this the flat spring's stability.

[0011] And as structure for which it was [in the case of forming in the above-mentioned flat spring's configuration] suitable, the fixed structure concerning invention of claim 3 forms the evacuation slot on the configuration in the outside of said stop crevice suitably, and is characterized by pinching a stop member by the part which consists between this evacuation slot and a stop crevice.

[0012] A tongue-shaped piece is formed in the part between said evacuation slots and stop crevices, and this tongue-shaped piece functions as a flat spring similarly. That is, if said stop member is stuffed into a stop crevice, this tongue-shaped piece will bend suitably and it will retreat into an evacuation slot, and where a stop member is inserted, this stop member will be pinched.

[0013] Moreover, the fixed means concerning invention of claim 4 is characterized by making the elasticity of said stop crevice have with the ingredient which forms this stop crevice.

[0014] Although elasticity can also be made to have with the configuration of this stop crevice as mentioned above in order to make a stop crevice equipped with elasticity, elasticity can also be made to have by forming this stop crevice by elastic material, such as rubber. That is, when a stop member is pushed in, with the elasticity of the stop crevice itself, it will be extended suitably and a stop member will be pinched.

[0015] Moreover, so that elastic material may be used only for the part which forms this stop crevice and the driving pulley itself can be formed with a metal or synthetic resin, when elastic material constitutes a stop crevice The fixed structure concerning invention of claim 5 forms a hold crevice in said driving pulley, makes the crevice member which consists of elastic material which stopped the engagement crevice which engages with said stop member hold in this hold crevice, and is characterized by constituting said stop crevice by this crevice member.

[0016]

[Embodiment of the Invention] Hereafter, based on the gestalt of the illustrated desirable operation, the fixed structure of the wire for a carrier drive of the image processing system concerning this invention is explained concretely.

[0017] First, with reference to drawing 4 , an outline is explained about the drive of a carrier. The 1st carrier 2 and the 2nd carrier 3 are laid in guide plate 1a formed of the step which protruded on the medial surface of the both-sides wall in alignment with the longitudinal direction of the housing 1 of an image processing system, and these carriers 2 and 3 slide, scraping the front face of this guide plate 1a. The reflecting mirror which is not illustrated on these carriers 2 and 3 is put together suitably, it is

attached, and the optical path which leads the image of the manuscript which was put on the top face of this housing 1, and which is not illustrated to the image sensor which is not illustrated [CCD] is formed. In reading the image of a manuscript, it scans a manuscript by sliding of these carriers 2 and 3. In addition, in the case of a scan, since it is necessary to maintain the above-mentioned optical path at predetermined die length, carriers 2 and 3 must maintain predetermined relation and must move.

[0018] The driving shaft 4 which makes shaft orientations the direction which intersects perpendicularly with the scanning direction of carriers 2 and 3 is supported free [rotation] by the end section of the longitudinal direction of housing 1, and the passive-movement side pulley 5 is attached in the center section. The belt 8 for a drive is stretched by this passive-movement side pulley 5 and the driving-side pulley 7 attached in the output shaft of a motor 6. The driving pulley 20 is attached in the both ends of this driving shaft 4, it is made to have rotated with this driving shaft 4, and the center section of the wire 12 is suitably wound around this driving pulley 20 with number of turns. It is arranged by the side face of the 2nd carrier 3 in a scanning direction, and the guidance pulleys 13 and 14 of a pair are supported free [rotation] centering on the direction which intersects perpendicularly with a scanning direction. Moreover, the guidance pulley 15 is supported free [rotation] centering on the direction which intersects perpendicularly with a scanning direction in the edge of the opposite side the side which arranged said driving shaft 4 of housing 1. Moreover, bracket 1b is prepared in the proper location of the side attachment wall of housing 1. In addition, these drive pulley 20, a wire 12, the guidance pulleys 13, 14, and 15, and bracket 1b are the interior of housing 1, and are prepared in both sides across the scanning zone of carriers 2 and 3.

[0019] And the end section of the wire 12 made to wind around said driving pulley 20 makes it go via coordinated section 2a of the 1st carrier 2, and said guidance pulley 13, and is hung on said bracket 1b. Moreover, the other end of a wire 12 carries out the sequential course of said guidance pulley 15 and guidance pulley 14, and is hung through the stress spring 16 which pulls on the side attachment wall of housing 1, and consists of coiled spring etc.

[0020] Said wire 12 is the same as the wire 54 shown in drawing 5 , and the globular form stop member 55 has fixed it like the wire 54 on this wire 12. As shown in drawing 2 , it is fixed to a driving pulley 20 and count winding of this wire 12 is carried out suitably.

[0021] As shown in drawing 1 , the stop crevice 21 is formed in the peripheral surface of a driving pulley 20. In addition, it is circular on this drawing and surrounded drawing is drawing expanding and showing this stop crevice 21. This stop crevice 21 is formed of the circular slot so that said stop member 55 can be inserted. The evacuation slot 22 is formed in the outside of this stop crevice 21 along with this stop crevice 21 and a part of concentric circle, and the center section and the stop crevice 21 of this evacuation slot 22 are connected in the free passage slot 23. Therefore, as shown in this drawing, the radii-like spring tongue-shaped piece section 24 is formed between the stop crevice 21 and the evacuation slot 22.

[0022] Moreover, the wire retention groove 25 of die length is suitably formed in the both sides of this stop crevice 21 along the hoop direction of a driving pulley 20 succeeding said stop crevice 21.

[0023] About the operation gestalt of the fixed structure concerning this invention constituted by the above, that operation is explained below.

[0024] It is made to insert, stuffing into the stop crevice 21 the stop member 55 which fixed on the wire 12. It carries out at this time, inserting the part of the both sides of the stop member 55 of a wire 12 in said wire retention groove 25. If the stop member 55 is pushed in, said spring tongue-shaped piece section 24 can extend outside, and it will bend in the evacuation slot 22 side, and where the stop member 55 is suitably pushed in to a location, this stop member 55 is pinched in response to the stability of the spring tongue-shaped piece section 24, and a wire 12 will be in the condition of having been fixed to the driving pulley 20. And what is necessary is just to carry out count winding of predetermined of the wire 12 at a driving pulley 20.

[0025] Drawing 3 is drawing showing other operation gestalten for making the stop crevice 21 possess elasticity. The evacuation slot 22 is formed in the outside of this stop crevice 21 along with this stop crevice 21 and a part of concentric circle, and the both ends and the stop crevice 21 of this evacuation

slot 22 are connected in the free passage slot 26. Therefore, the spring tongue-shaped piece section 27 to which the end face section was located in the base of the stop crevice 21, and the free edge was located in the front face of a driving pulley 20 in the part surrounded by these stop crevice 21, and the evacuation slot 22 and the free passage slot 26 is formed. Moreover, the wire retention groove 25 is formed succeeding the stop crevice 21.

[0026] If it is made to insert in the fixed structure concerning the operation gestalt shown in this drawing 3, stuffing the stop member 55 into the stop crevice 21, said spring tongue-shaped piece section 27 will bend suitably outside, and the stop member 55 will be pinched by that stability. For this reason, a wire 12 will be in the condition of having been fixed to the driving pulley 20.

[0027] In addition, the operation gestalt explained here is one desirable gestalt of this invention, and this invention can be variously transformed in the range which is not limited to this and does not deviate from a summary, and, of course, it can carry out. For example, although this operation gestalt explained the configuration around the stop crevice 21 about the structure made to be equipped with elasticity as a proper thing as shown in drawing 1 and drawing 3, elasticity may be made to have by other approaches. For example, driving pulley 20 the very thing is formed by rubber material etc., a circular slot is formed in that peripheral surface, if a stop crevice, then the stop member 55 are stuffed into this stop crevice, a stop crevice can extend this slot suitably according to the quality of the material of a driving pulley 20, and a stop member can be pinched according to that stability. Moreover, a driving pulley 20 can be fabricated with a metal or synthetic resin, and it can lay under the slot which formed in the driving pulley 20 what was formed in the shape of tubing by rubber material, and can also consider as a stop crevice. Also when stuffing the stop member 55 into this stop crevice, a stop crevice will be extended by the elasticity of rubber, and the stop member 55 will be pinched by that stability.

[0028]

[Effect of the Invention] Since a stop member is pinched with the elasticity of a stop crevice according to the fixed structure of the wire for the carrier drive of the image processing system applied to this invention as explained above and the wire was fixed to the driving pulley, even if an error is in the processing dimension of a stop member, a stop member can be made to be able to engage with a stop crevice certainly and easily, and a wire can certainly be fixed to a driving pulley.

[0029] Moreover, according to the fixed structure of the wire for a carrier drive of the image processing system concerning invention of claim 2, in case a driving pulley is processed, a stop crevice can also be processed, and a wire can certainly be fixed with easy structure.

[0030] Moreover, according to the fixed structure of the wire for a carrier drive of the image processing system concerning invention of claim 3, a stop crevice can be made to be easily equipped with elasticity with easy structure.

[0031] Moreover, according to the fixed structure of the wire for a carrier drive of the image processing system concerning invention of claim 4, since what is necessary is just to form a stop crevice in the configuration which suited the stop member in case a driving pulley is processed, processing becomes easy further and a manufacturing cost can be reduced.

[0032] And only a stop crevice can be made to be equipped with proper elasticity according to the fixed structure of the wire for a carrier drive of the image processing system concerning invention of claim 5, making a driving pulley equipped with desired reinforcement.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] In the image processing system which performs the drive of the carrier for scanning the manuscript laid in the manuscript base by migration of the wire which this carrier was made to coordinate To the driving pulley of said wire which fixes the stop member of a configuration suitably in a location, and fixes said wire Fixed structure of the wire for a carrier drive of the image processing system characterized by pinching a stop member with this elasticity in the condition of having formed the stop crevice which engages with said stop member, having made the part in contact with the stop member of said stop crevice equipped with elasticity, and having made the stop member engaging with a stop crevice.

[Claim 2] Fixed structure of the wire for a carrier drive of the image processing system according to claim 1 characterized by making the elasticity of said stop crevice have with the configuration of the periphery of this stop crevice.

[Claim 3] Fixed structure of the wire for a carrier drive of an image processing system given in either claim 1 characterized by pinching a stop member by the part which forms the evacuation slot on the configuration in the outside of said stop crevice suitably, and consists between this evacuation slot and a stop crevice, or claim 2.

[Claim 4] Fixed structure of the wire for a carrier drive of the image processing system according to claim 1 characterized by making the elasticity of said stop crevice have with the ingredient which forms this stop crevice.

[Claim 5] Fixed structure of the wire for a carrier drive of the image processing system according to claim 4 characterized by having formed the hold crevice in said driving pulley, having made the crevice member which consists of elastic material which stopped the engagement crevice which engages with said stop member hold in this hold crevice, and constituting said stop crevice by this crevice member.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is shown in the part which was circular and surrounded the enlarged drawing of a stop crevice with the top view showing the fixed structure of the wire for a carrier drive of the image processing system concerning this invention.

[Drawing 2] According to the fixed structure concerning this invention, a part is cut and the front view of the driving pulley which fixes a wire has shown.

[Drawing 3] It is shown in the part which was circular and surrounded the enlarged drawing of a stop crevice with the top view showing other operation gestalten of the fixed structure of the wire for a carrier drive of the image processing system concerning this invention.

[Drawing 4] It is the perspective view explaining the device for driving the carrier of the image processing system which has the wire fixed to the driving pulley by the fixed structure concerning this invention with this wire of an outline.

[Drawing 5] It is drawing for explaining the fixed structure of the conventional wire, and is a top view equivalent to drawing 1.

[Description of Notations]

- 1 Housing
- 2 1st Carrier
- 3 2nd Carrier
- 4 Driving Shaft
- 6 Motor
- 12 Wire
- 20 Driving Pulley
- 21 Stop Crevice
- 22 Evacuation Slot
- 23 Free Passage Slot
- 24 Spring Tongue-shaped Piece Section
- 25 Wire Retention Groove
- 26 Free Passage Slot
- 27 Spring Tongue-shaped Piece Section
- 55 Stop Member

[Translation done.]

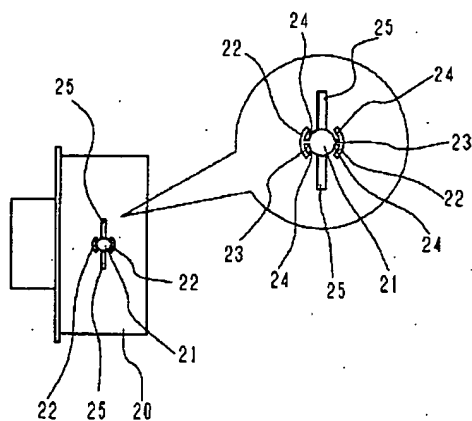
* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

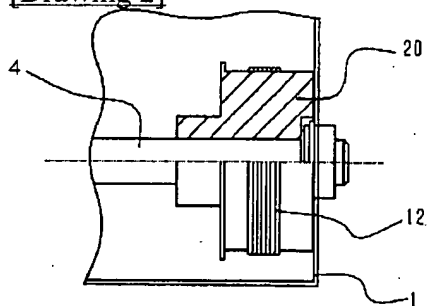
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

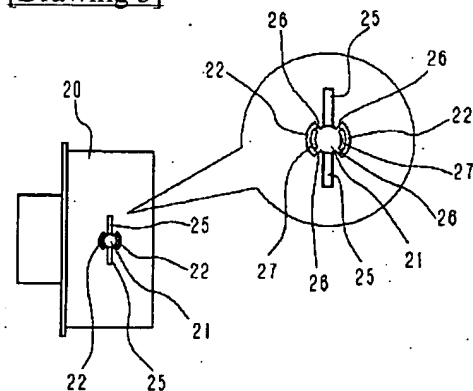
[Drawing 1]



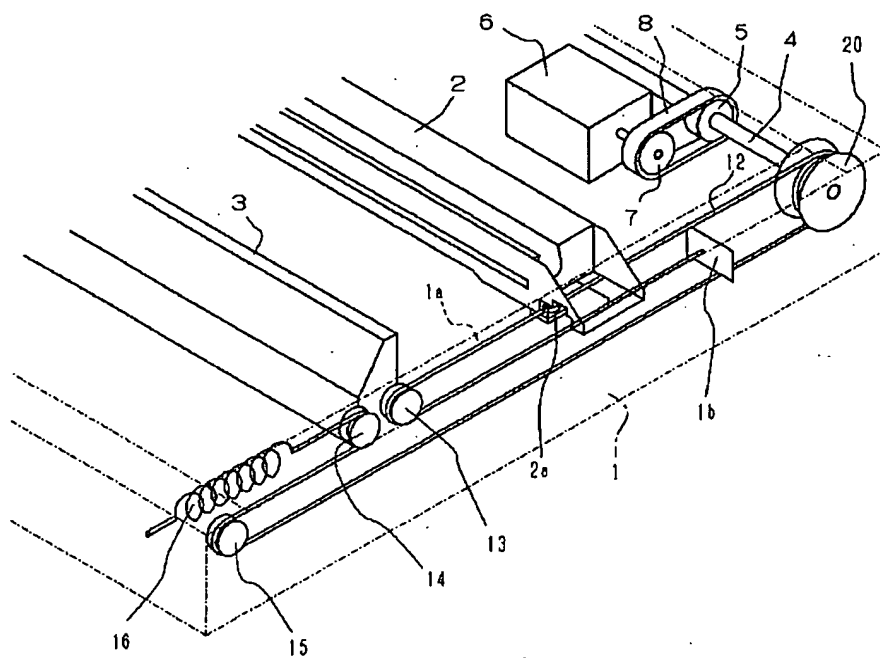
[Drawing 2]



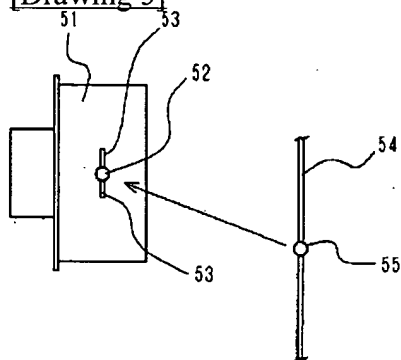
[Drawing 3]



[Drawing 4]



[Drawing 5]



[Translation done.]